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**A Look at the Future of Strategic Effectiveness
Through the Lens of Airpower History**

by

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Abstract

The story of the U.S. Air Force (USAF), since its independence in 1947, has been one of innovation, technical marvels, and tactical precision. The USAF continues to deliver what the nation asks, in terms of global vigilance, global reach, and global power. That said, the effectiveness of the USAF has been less than perfect, and the narrative reflects this deviation. While the USAF has successfully achieved tactical effectiveness – the ability to achieve limited airpower objectives – it has often failed to achieve strategic effectiveness, which is the ability to singularly meet political goals. The defining characteristics of the Air Force in 2016 which have led to this dilemma are: a theoretical notion that airpower alone can solve the nation's problems, an organizational culture centered around leadership, primarily by a subset of pilots; and, a strategic focus on the means, or the hardware, instead of on a desired end state in conflict. In identifying and understanding these concepts, the USAF can better shape its future force in 2036 in several ways, by focusing on synergistic operations, creating a culture which places the best leaders at the highest ranks, regardless of their specific tactical expertise, and framing complex problems with a desired end state in mind, in order to achieve maximum future strategic effectiveness.

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Introduction

The story of the U.S. Air Force (USAF), since its independence in 1947, has been one of innovation, technical marvels, and tactical precision. The USAF continues to deliver what the nation asks, in terms of global vigilance, global reach, and global power. That said, the effectiveness of the USAF has been less than perfect. While the USAF has successfully achieved tactical effectiveness – the ability to achieve limited airpower objectives – it has often failed to achieve strategic effectiveness, which is the ability to singularly meet political goals.

Specifically, in Operation Iraqi Freedom (OIF), the USAF masterfully defeated the Ba'athist regime, but it could not produce a stable and free Iraq.¹ The defining characteristics of the Air Force in 2016 which have led to this dilemma are: a theoretical notion that airpower alone can solve the nation's problems; an organizational culture centered around leadership, primarily by a subset of pilots; and, a strategic focus on the means, or the hardware, instead of on a desired end state in conflict. In identifying and understanding these concepts, the USAF can better shape its future force in 2036 in several ways, by focusing on synergistic operations, creating a culture which places the best leaders at the highest ranks, regardless of their specific tactical expertise, and framing complex problems with a desired end state in mind, in order to achieve maximum future strategic effectiveness.

Airpower Alone

The notion that airpower alone could achieve victory was rooted in early airpower theory, influenced by its new independence, and reinforced by early conflicts. An aircraft delivered the atomic bombs over Japan, and the world saw these actions as the fulfillment of Billy Mitchell's theories that airpower alone could deliver the decisive blow. In actuality, this action was merely

“the final straw” in a series of events, including island hopping by ground forces, a naval blockade and mining operations, and the Soviet invasion of Manchuria.² This rhetoric, as Dr. Tami Biddle calls it,³ drove the rise of Strategic Air Command (SAC), and a myopic nuclear deterrence doctrine. The effect of this thinking was apparent in the Vietnam era, when SAC strategists wrongly assumed that nuclear doctrine could be scaled down to serve lesser conflicts. The war was fought in a battlespace separated into areas for each service, and inter-service rivalry affected operations. Though airpower dropped an impressive amount of tonnage on the enemy and massed a sizable enemy body count, these “measures of effectiveness” could not drive North Vietnam to capitulate and prevent the spread of communism.⁴ The fact that peace negotiations were preceded by the Linebacker II fueled the narrative that air power alone could achieve victory, as supported by Marshall Michel in *11 Days at Christmas*.⁵ This narrative ignored the political context and concessions given to China and Russia, as well as the effects of a protracted ground war.⁶

Recognizing the need for more joint operations, the *Prodigal Soldier* highlighted the institutional changes that resulted when the young officers of Vietnam rose to the general-officer level, eventually leading to the Goldwater-Nichols Department of Defense Reorganization Act of 1986.⁷ While this movement towards joint operations led to necessary improvements in how war was fought, the notion that airpower alone could be used to achieve political objectives did not disappear. Operation Allied Force over Kosovo reinforced this false narrative by executing an air-only campaign to achieving political goals. Airpower alone, however, could not stop ethnic cleansing, and when the U.S. president publically announced that ground troops would not be sent to the fight, Milosevic increased ethnic cleansing. This false narrative that the air campaign alone led to victory, excludes the coalition efforts and the greater political context, such as Russia withdrawing its support from Kosovo.⁸ The illusion that airpower alone could achieve

victory was a significant reason the USAF gained independence, and this promise has been reinforced throughout its history. Because the foundation of airpower is built in part upon a false narrative, the USAF has been unable to realize its full potential as a synergistic part of the strategic effectiveness equation in 2016. Look no further than the most recent offensive airpower applications. In 2016, the Islamic State in the Levant (ISIL) is under a constant threat of attack from the air, yet it has failed to capitulate after months of bombing. Despite the desire of political leaders to use air power alone to defeat ISIL, this myopic approach has proved incapable of delivering strategic effectiveness.

The “airpower-alone” narrative and quest for independence as a service caused airmen to look at themselves differently even before the USAF achieved independence.⁹ Early pilots in the Army Air Corps were enraged when they were commanded by non-flyers. This flaw of early airmen would not be repeated in their independent service.¹⁰ The USAF was created around the technology of the aircraft and revolutionized nature of warfare. The new way of fighting wars centered on the pilot as the heroic image of the warfighter. Jeffery Smith, in *Tomorrow’s Air Force*, discusses the cultural shifts in USAF history resulting from external factors, internal culture, and leadership.¹¹ *Prodigal Soldiers* exemplifies how external events can change thinking among lower level officers, thinking that transforms the organization when those officers rise to the general-officer level.¹² Since the organization was formed by pilots, pilots dominated leadership positions throughout USAF history. The pilots who experienced combat operations were then promoted in the years following a conflict. In this way, the dominant subset of operators in a conflict shaped the culture of the force in following years. The rise of the bomber pilot during the glory days of SAC gave way to the rise of the fighter pilot following Vietnam. This shift in culture was so pronounced that SAC was disbanded in 1992. Smith shows that the top general officers in 2001 were fighter pilots and though other subsets of pilots, including

special operations and mobility pilots, have been increasingly promoted to the general officer ranks, the trend of fighter pilots leading the Air Force continues today.¹³

Leaders from a Single Background

When a subset of an organization is disproportionately promoted to the highest ranks, the organization inevitably orients around their specific mindset.¹⁴ The USAF, under its dominant fighter pilot leaders, remains largely fighter-centric in 2016. Therefore, if an initiative does not support “bombs on a target,” it is not considered primary to the mission. A prime example of this myopia was a leader on the Air Command and Staff College (ACSC) stage, who likened cyber to a chess player who could be easily defeated by a punch (airpower).¹⁵ This mindset is dangerous when potential adversaries are heavily invested in cyber warfare. While Operation Desert Storm and OIF demonstrated that the fighter perspective works when an enemy has clearly identifiable targets, is organized conventionally, and is tactically and technologically inferior, these types of wars are less likely to occur in the future. There are two ways for an enemy to fight the United States: asymmetrically or stupidly.¹⁶ With the world that has studied USAF operations in OIF, OEF, and Operation Inherent Resolve (OIR), an adversary’s approach will likely be asymmetric, whether they are a non-state actor or near-peer competitor.

Recent conflicts in Iraq, Afghanistan, and Syria have reinforced the need for fighter platforms, but have also highlighted the significance of ISR, mobility, special operations, logistics, space, and cyber for the modern warfighter. These traditional support roles proved to be as important to fighter operations and the land-based operations that followed the initial air-land assault in OIF. When fighter pilots, or pilots in general, are the only leaders of the organization, the focus is on future aircraft and delivering bombs on targets. Future wars are

imagined in the way in which operators want to fight them, instead of what is likely to occur.¹⁷

History is replete with cautionary tales in this errant mode of thought. Bomber generals, like LeMay, imagined a nuclear war and structured a force to meet that requirement: bomber pilots as the primary warfighters and leaders, and bomber aircraft as the primary means.¹⁸ Instead leaders were confronted with Vietnam, and deemed it the “wrong war at the wrong time.”¹⁹ In actuality, the USAF was blinded by its own institutional proclivities and was ineffective in meeting the asymmetric, non-nuclear scenario that Vietnam presented. Fast forward to 2016. How does the air superiority doctrine apply to conflicts being waged in the Middle East when the USAF remains unopposed from the air? The answer: it does not.

When only one subset of pilots lead the USAF, not only does the organization prepare for the missions familiar to those individuals, but it also tends to focus on specific platforms or technologies that are unique to those missions. A leader’s operational experience shapes the way he views conflicts and this myopic perspective can be detrimental to the leader and organization. Though as previously stated, pilots from all commands are achieving general officer-level in today’s Air Force, the assumption still remains that pilots are the primary operators and manned platforms will take center stage in future conflicts.

Focus on the Means versus the End

The USAF has been on a quest for the newest technology, superior to those of any adversary, since General Arnold led the original force.²⁰ The advanced technology and unique capabilities of the aircraft drove the creation of the independent force. The progression from SAC and the bomber generals to post-Vietnam and the rise of the fighter generals has continued to focus the USAF on the means (hardware), instead of on defining the problem, and focusing on

an end state (objective) to meet that problem. This has not been alleviated by the rise in the ranks of other types of pilots.

Vietnam again provides an example of this conundrum. Nuclear weapons were the new technology and so strategies (ways) were centered on that technology. The weaponry was the focus instead of the true problem of how to protect American interests and American citizens at home and abroad. This new technology became the cure-all, just as the airplane was imagined to be after World War I, as it could overfly the trenches to reach strategic targets. Moreover while Colonel Harry “Heinie” Aderholt wanted to focus on low-tech options to meet the challenges of Vietnam, General William Momyer was convinced that the high-tech solution, or the newest aircraft, would answer the problems posed by a lesser opponent.²¹ This logic, with a focus on the most advanced means available instead of the desired end state, was faulty then and is faulty now.

Recommendation

Confronted with the characteristics of the Air Force in 2016 that detract from its ability to produce strategic effectiveness, the future leader must embrace the following recommendations in order to shape the future Air Force of 2036. First, there must be a focus on synergistic operations, or a true integrated mindset that is open to all instruments of national power to meet global challenges. Second, a cultural change in the organization must occur such that the highest ranks of the organization are not limited to pilots, but instead are comprised of the best leaders and strategic thinkers, who are multi-domain warfighters, able to create effects in multiple or all domains simultaneously. Third, leaders must spend time framing the problems of the day instead

of investing in high cost weaponry at the expense of innovative strategies to meet military and political goals.

Synergistic Operations

For maximum strategic effectiveness, the Air Force in 2036 will need to leverage synergy within the Air Force, between services, and with the greater government to address future issues. In his vision for synergistic-operations, Smith describes an Air Force where “the capability and holistic combination of sub-groups and their operational specialties across the USAF would be greater than the sum of their individual parts.”²² When sub-organizations on a staff keep to themselves, stove piping occurs and information does not occur across organizations. Only in a mass brief will departments join in a single room to present information to a commander, who must then absorb and synthesize the information. The commander then is the single point of failure. If these departments could share information at the lowest levels possible, then problems could be solved early on and a better product or plan would be presented to a commander. In his book, *Leaders Eat Last*, Simon Sinek describes the benefits of information sharing and collaboration with an example from the company 3M. Spencer Silver’s failed adhesive invention led to Art Fry’s invention of Post-it Notes because of an organizational culture that favored information sharing.²³ Sinek argues that organizations that encourage their people to share information will naturally be innovative organizations.²⁴ With the current focus on “diversity of thought”, the culture must encourage cognitive dissonance from a wide range of viewpoints in order to innovate and solve complex problems.

Synergistic operations between services in 2036 will require a joint mindset at lower levels of the organization. Colonel Clint Hinote argues that in future area denial conflicts,

executing will need to be decentralized.²⁵ In order for this to occur, increased situational and battlespace awareness must be built at lower levels of the organization. Thus, strategists and planners at all levels need to be fully educated in not just what each service brings to the fight but also how to use the right capabilities to deliver a desired effect. This can be initiated via early education with a focus on how the Air Force operates within the larger joint force instead of exclusively on USAF capabilities or a serial application of joint service capabilities.

The sum of the forces will always be greater than any one force. The shift should be to the joint force rather than on the individual forces first. In theory this idea is clear, and the 1986 Goldwater-Nichols Department of Defense Reorganization Act has worked effectively to emphasize joint operations at the combatant-commander level and higher. These service members should not need to learn joint operations while engaged in combat operations. Ideally, service members will deploy, ingrained with the education of their piece in overall synergistic operations. Education can take place at the all levels of the developmental pyramid. At the basic level, officers should study all service organizations and capabilities. Squadron Officer School and its equivalents would include joint exercise education that would be standardized across the services with opportunities to send officers to any of the sister service schools for training. Early exposure to joint operations would only benefit the joint team in the future. At the Intermediate (IDE) and Senior Developmental Education (SDE) levels, a joint school would provide an even greater benefit over the current small number of officer exchanges. As an alternative, IDE and SDE could partner between services for joint exercise planning as a part of their one year individual service programs.

True synergistic operations will not be isolated to the military instrument of power. In order to be strategically effective, particularly to address complex issues like terrorism, insurgencies, and state building operations, there must also be integration between the military

and other governmental organizations. Since the role of the USAF, as a part of the greater military, is merely one tool leaders possess on the international stage, it should be regarded as such, instead of as a quick fix to the issues of the day. Educating Air Force officers on this key issue is not enough. Placing key military members with future political leaders in a joint classroom will give them a common background and a mutual respect when addressing future problems. This initiative could start in ACSC and Air War College by increasing the number of government civilians in each class. Conversely, more military officers should compete for desirable civilian programs in order to build relationships and a common dialogue when addressing complex problems. Stanford University's recently announced Knight-Hennessy Scholars Program, "a graduate-level scholarship to prepare a new generation of global leaders with the skills to address the increasingly complex challenges facing the world" is a perfect example of such a program.²⁶ Only when the Air Force can achieve synergistic operations within its organization, in a joint environment, and in a whole-of-government approach to global issues, will it critically connect tactical effectiveness with strategic effectiveness.

Broadening the Leadership Pool

Synergistic operations will require future Air Force leaders who are strategists, visionaries, and critical thinkers.²⁷ In order to identify and groom future leaders with these qualities, the highest ranks of the Air Force should not be limited to specific job titles as this restricts the number of applicants qualified for senior leader positions. This will also require a cultural shift which deemphasizes the importance of an operators' previous specific tactical expertise and favors leaders who understand multi-domain dominance.²⁸ The current Air Force diversity initiative seeks to increase the proportion of women and minorities in top leadership

positions, arguing that those groups will bring a diversity of thought to the strategic level. Instead of restricting the focus to gender and race, AF/A1 should equally address the organizational culture and promotion system which disqualifies non-pilots from leadership opportunities. Operational backgrounds and expertise offer true measures of diverse thinking, based on varied experiences. True cultural shifts are difficult and complex, but fixing the promotion system is a critical step towards achieving desired effects.

The highest ranks of the Air Force should be opened to non-pilots, but those individuals must be groomed appropriately. In order to alleviate the repeated fears of those original Army Air Corps Officers who did not want to be commanded by non-flyers, Airmen with the potential for command should have early exposure to operational flying units. Most non-rated officers have not flown on an Air Force aircraft or experienced aircraft simulator orientation flights. Just like synergistic operations would require working outside sub-organizational stovepipes, creating multi-domain leaders will require early education and exposure to other sub-organizations. If a maintenance officer and a pilot exchanged units for a year, those two individuals will gain valuable knowledge for their own professional development, and will also help bridge the gap between the two organizations. Just as rated personnel working at the Group and Wing Level maintain their flying currencies, so too could those who do an exchange in a squadron outside the operations group. General Stanley McChrystal, in *Team of Teams* writes about the success of personnel exchanges during his Command of the Joint Special Operations Task Force in Iraq in 2003. By exchanging a Navy Seal with an Army Ranger, and a CIA agent with an Air Force Special Forces Airmen, a “Team of Teams” formed. McChrystal said, “We needed to enable a team operating in an interdependent environment to understand the butterfly-effect ramifications of their work and make them aware of the other teams with whom they would have to cooperate in order to achieve strategic—not just tactical—success.”²⁹ This concept would apply towards

synergistic operations, creating leaders with a breadth of knowledge in multi-domain operations, and would help the cultural shift required to accept non-pilots as the highest-ranking leaders in the Air Force of 2036.

To further the shift from the pilot-dominated culture toward the multi-domain warrior leader, lessons can be taken from other services. For example, the Marine Corps deemphasizes tactical expertise and emphasizes creating effects, particularly starting at the Field-Grade Officer level. As demonstrated in OIF and OEF, both highlighted by Smith, Air Force intelligence officers and ISR assets may require hundreds of hours to find and identify a target, and a fighter asset may be dispatched to eliminate the target, with a time commitment of under an hour.³⁰ Instead of viewing ISR functions in a supporting role to the fighter pilot or the fighter pilot in a supporting role to ISR, the focus should be on how all elements execute their collective roles for a desired effect. Synergistic effects require multi-domain warfighters. This will require not only a cultural change in what an Air Force warfighter looks like, but also a reimagined promotion system which allows the right person to rise to the highest levels of the USAF, regardless of career field.

Strategic Emphasis on the Ends and Framing the Problem

In the ends, ways, and means model, the USAF has focused on the means (hardware) instead of building ways (strategies) and means (hardware) to meet desired end states (political goals).³¹ The current trend is to focus on highly advanced, multi-role platforms, as opposed to single-role platforms. The USAF has always been known to seek the most technologically advanced aircraft to persist in and reinforce a “Bigger-Farther-Faster” paradigm. Instead of asking what the next aircraft should be, the question should be: “what end state is the USAF

trying to achieve?" When this question is answered, the ways and means should then be developed to meet those ends. Under the current acquisition system, this concept is not possible because it takes nearly 20 years to bring an aircraft from design to procurement. In order to meet demands of an uncertain world, the acquisition process must be condensed and include processes for the rapid acquisition of off-the-shelf technologies, in light of an exponentially increasing amount of information technology. Technologies to synthesize the vast amount of information will be required at the Airmen-level. During this reform, the Air Force cannot afford to stop the acquisition process overhaul due to aging aircraft and a decreasing budget. Leaders should consider low-tech, less costly platforms, to maximize options for military operations. Using advanced fighters in undisputed environments is not cost effective and is unsustainable. Remotely piloted vehicles and low-cost manned platforms provide alternatives. Two Vietnam-era OV-10 Broncos were recently brought out of retirement to aid in counterinsurgency operations against the Islamic State in Syria. The aircraft flew 120 missions with a 99% sortie effectiveness, with a cost of \$1,000 per hour to operate versus the F-15, with a cost of \$40,000 per hour.³² Low-cost platforms would provide an alternative means of operating in an undisputed environment and also provide an option for allies who seek similar technologies.³³

Though the human element of warfare remains constant today, as it was in Clausewitz's day, and will endure in the future, the contextual environment is ever-changing and has caused warfare to look different than the conventional wars of history and Hollywood.³⁴ It is important to understand the elements of war that change and those that stay the same. While victory in battle has been successful in achieving desired political goals in the past, this is not necessarily true today or in the 2036 Air Force. History has shown that victory in war does not directly translate to a better peace. For this reason, the emphasis needs to be placed on framing the problem and the desired strategic continuing advantage, instead of on a myopic goal of military

victory. Only when the right questions are asked and the correct problems addressed, will tactical and strategic effectiveness align.

Conclusion

The USAF in 2016 is the best Air Force the world has seen, yet if it stagnates in its development, it will not be able to deliver strategically effective results in 2036. In a near-peer rivalry, defeat would signal a change in the current international order. It is critical to the Air Force, the United States, and global allies that leaders make important decisions now in order to create a force with operational agility to meet the varied threats of tomorrow. If leaders cannot lead the shift from the current 2016 Air Force – characterized by its penchant for independence, pilot-only leadership, and its focus on means – to a 2036 Air Force, focused on synergistic operation, led by multi-domain warfighters who can address complex problems, then leaders face sending highly skilled warriors, with the most technologically advanced platforms, to address the wrong problems and they will fail.

Endnotes

¹ Colin S. Gray, *Airpower for Strategic Effect*. (Maxwell AFB, AL: Air University Press, 2012), 239.

² ACSC, Airpower, 2 October, 2015.

³ Tami D. Biddle, *Rhetoric and Reality in Air Warfare*. (Princeton, NJ: Princeton University Press, 2002), 293.

⁴ Gray, 177.

⁵ Marshall Michel, *The 11 Days of Christmas*. (San Francisco, CA: Encounter Books, 2002), 218.

⁶ Ibid, 237.

⁷ James Kitfield, *Prodigal Soldiers: How a Generation of Officers Born of Vietnam Revolutionized the American Style of War*. (Washington: Potomac Books, 1997), 293.

⁸ Benjamin Lambeth, *NATO's Air War for Kosovo: A Strategic and Operational Assessment*. (Santa Monica, CA: RAND, 2001), 220.

⁹ Gray, 241.

¹⁰ Jeffery J. Smith, *Tomorrow's Air Force: Tracing the Past, Shaping the Future*. (Bloomington, IN: University of Indiana Press, 2014), 16.

¹¹ Ibid, 201.

¹² Kitfield, 415.

¹³ Smith, 99.

¹⁴ Smith, 101.

¹⁵ ACSC, International Studies, November 5, 2015.

¹⁶ ACSC, Airpower, December 3, 2015.

¹⁷ Smith, 98.

¹⁸ Michel, 3.

¹⁹ Ibid, 20.

²⁰ Dik A. Daso, Hap Arnold and the Evolution of American AirPower. Washington, D.C.: Smithsonian Books), 185.

²¹ Warren A. Trest, *Air Commando One: Heinie Aderholt and America's Secret Air Wars*. (Washington, D.C.: Smithsonian Books, 2000), 12.

²² Smith, 207.

²³ Simon Sinek, *Leaders Eat Last*. New York, NY: The Penguin Group, 2014), 135.

²⁴ Sinek, 136.

²⁵ Hinote, Clint (Col, USAF). *Centralized Control and Decentralized Execution, A Catchphrase in Crisis?* Air University, March 2009, Research Paper, 2009.

²⁶ Stanford University, Stanford launches Knight-Hennessy Scholars Program, February 24, 2016.

²⁷ Smith, 216.

²⁸ Smith, 224.

²⁹ McCrystal, 130.

³⁰ Smith, 208.

³¹ Smith, 221.

³² Eric Tegler, The OV-10 is even older than the A-10 and it's fighting ISIS too. Popular Mechanics, Mar 11, 2016.

³³ Ibid.

³⁴ Carl von Clausewitz. *On War*. Edited and translated by Michael Howard and Peter Paret. (Princeton, NJ, Princeton University Press, 1989).



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